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Development and Initial Validation of a Satisfaction Scale on Diversity

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Submitted to ERIC database, March 2009

The paper was initially presented at the 2008 annual meeting of the
American Educational Research Association, NY.

Abstract

The objective of this study was to develop an instrument to measure faculty, staff, and graduate students' attitudes and perceptions about how successful is their school in addressing diversity related issues. We describe the development and initial validation of the Diversity Attitudinal Satisfaction (DAS) scale. Individuals (N=185) from a large public university completed the DAS scale. Exploratory factor analysis and reliability analysis suggested three subscales: Recruit & Retain, Education for Diversity, and Climate for Diversity. Additional analysis revealed significant differences on the mean subscale scores between groups of people (faculty/staff vs. graduate students; Whites vs. people of other ethnicities).

Development and Initial Validation of a Satisfaction Scale on Diversity

Purpose of the Study

The educational value of diversity has been endorsed by many researchers (e.g., Astin, 1993; Smith et al., 1997) who indicate that diversity strengthens the academic quality of the university, enriches the educational experience, promotes personal growth and a healthy society, strengthens communities, and enhances the nation's economic competitiveness. Gurin, Nagada, and Lopez (2004) found that a diverse student body creates a unique learning environment where students learn to interact with peers from different backgrounds.

In higher education, the issue of diversity has become a main concern, and affirmative action policies on diversity are unavoidable. Levine (2001), president of Teachers College at the Columbia University, explained how the United States is becoming a diverse nation as never before:

In terms of race, minority populations make up a majority of residents in one state. Five out of seven of the largest U.S. cities have majority minority populations. Pundits estimate that by the year 2050 the U. S. will be a minority majority nation. In terms of religion, there are more Muslims, Hindus, and Buddhists in the United States than Lutherans or Episcopalians. In terms of ethnicity, it is not unusual to find urban school systems in which students speak more than 70 languages (Levine, 2001, para. 1).

Today, hundreds of campuses across the country engage in efforts to diversify their faculty and student body. Institutions attempt to increase the numbers of women and underrepresented people of color among their student populations, faculty, and staff, and to develop a curriculum that is more inclusive and representative of the perspectives of these groups (Bell, Hunt, Ingle, & Wei, 1992).

The present study was conducted at a large public university in the Northeast. We sought to develop a quantitative self-report instrument to measure faculty, staff, and graduate students' attitudes and perceptions about how successful is their school in addressing diversity related issues. Based on our literature review, success with addressing diversity was thought to have four dimensions: (1) ability to *recruit and retain* underrepresented minority faculty, staff, and students (R&R); (2) ability to *market and communicate* commitment to diversity (M&C); (3) ability to provide *education for diversity* (ED); and (4) ability to endorse a positive *climate for diversity* (CD). Results from an exploratory factor analysis and reliability analysis only partially confirmed the hypothesized dimensions.

Literature Review

We subscribed to the following definition of diversity endorsed by the committee of diversity at the school we conducted this study.

Diversity encompasses the presence and participation of people who differ by age, color, ethnicity, gender, national origin, race, religion, and sexual orientation; and includes those with disabilities and from various socio-economic backgrounds. It encompasses not only individuals and groups, but also thoughts and attitudes. (University of Connecticut, 2002, p. 6).

Recruitment and retention of underrepresented faculty, staff, and students

A diverse faculty provides substantial benefits to all students, non-minorities and minorities alike. It enriches educational experiences, allowing exposure to diverse perspectives, role models, and mentors. Astin (1993) found diversity in an institution has positive impacts on student retention, overall college satisfaction, college GPA, intellectual self-confidence, and social self-confidence. To retain underrepresented faculty members, their contributions need to

be appreciated (Thomas & Asunka, 1995). Also, leadership opportunities can help underrepresented faculty feel engaged (Turner, 2000). Student diversity initiatives are important to improve relationships on campus and affect positively their satisfaction and involvement with their institutions and their academic growth (Smith et. al., 1997; Turner, 2000).

The “Revolving Door for Underrepresented Minority Faculty in Higher Education”, a recent report of 2006, sounds an alarm for the academic community to better monitor progress in hiring and retention. The report looks at the efforts of 27 colleges and universities in California to increase the racial/ethnic diversity of their faculty, for the period of 2000 to 2004. The report reveals that underrepresented minority faculty are leaving almost as fast as they are hired. Nearly three of every five newly hired underrepresented minority faculty were simply replacing underrepresented minority faculty who had left the institutions (Moreno, Smith, Clayton-Pedersen, Parker, & Teraguchi, 2006).

Marketing and communicating diversity

Marketing diversity can be utilized as a deliberate strategy to get a critical mass of faculty, staff, students, alumni to the institution, to “buy in.” Communicating diversity involves raising awareness of diversity, communicating commitment to diversity, sharing diversity goals, and reporting on the progress in achieving those goals within the school.

Education for Diversity

The purpose of diversity education is to increase awareness and sensitivity about the differences individuals bring to the campus. Diversity education may include providing information about diversity efforts, providing information about methods and practices to address diversity, implementation of diversity courses and programs, diversifying the curriculum, and faculty and staff training on cultural diversity and nondiscrimination.

Climate for Diversity

A place that cares about its students and employees makes an effort to ensure that the climate is one of inclusiveness, civility, respect, and appreciation for the differences of others. In a “healthy” climate, people of all backgrounds are welcomed and included in the community; students, faculty and staff feel valued and respected, regardless of race, ethnicity, gender, religion, sexual orientation, age, job class, ability/disability or any other characteristic (Boise State University, 2007). Most searchers seem to agree that climate on college campuses not only affects the creation of knowledge, but also has a significant impact on members of the academic community who, in turn, contribute to the creation of the campus environment (Kuh & Whitt, 1988; Rankin & Associate, 2003).

Item Development and Content Validation Process

During the literature review process, a number of diversity action plans and related instruments, available on several universities’ websites, were examined; however none of them corresponded well to what we wanted to measure. Also, our search in ERIC and PsycINFO databases, as well as in the index of unpublished instruments, failed to uncover any exciting questionnaires aligned with our needs to be desirable for the present study. Thus, we decided that developing (and validating) our own scale was preferable.

Based on the results of the literature review conceptual definitions were written for each dimension (see Table A1), and approximately 20 items per dimension were created. Following initial item development, a content validation was completed on the draft items to ensure content coverage within each dimension, and of the diversity construct a whole. We used a two-step process for content validation starting with a qualitative review, followed by a quantitative review (McKenzie, Wood, Kotecki, Clark, & Brey, 1999).

 Insert Table A1 Here

Two content experts were recruited for the qualitative review. Each of the experts separately reviewed the conceptual definitions of the four dimensions, and the initial items. Based on their feedback, all the necessary revisions to the definitions and items were made; a few items were deleted, a couple of new items were added, and several items were reworded. The new version of the instruments was composed of 67 items (approximately 15 items per dimension).

For the quantitative review, we used a larger group of experts to categorize our items into the appropriate dimensions. Gable and Wolf (1993) recommended using 15-20 people. A total of 14 content experts were recruited. The experts were given one week to complete a validation form. They were asked to review all the 67 items and perform the following three tasks: (1) identify the dimension that each statement best fits, out of four possible dimensions, (2) indicate the certainty of their placement of the statement in the proper dimension, on a 5-point Likert scale, and (3) indicate how relevant they felt each item was for the chosen dimension, on a 5-point Likert scale. Additionally, they were asked to recommend wording changes for any items they felt were unclear and ambiguous, and to provide suggestions for improving the content coverage within each dimension.

Content validation results were tallied and organized into a spreadsheet. To select final items for each dimension we followed a three steps procedure:

Step 1: For each item, we computed the percentage of people who placed the item in the correct dimension. If an item was accurately categorized by more than 76% of the people (10 people or more out of 14), the item was marked for further consideration, otherwise it was deleted. After

the first step of item selection, a total of 40 items were left for further consideration: 11 items for R&R, seven items for M&C, eight items for ED, and 14 items for CD dimensions.

Step2: For each item kept in the analysis in step1 a mean certainty score was computed, using only the scores of the people who placed the item in the correct dimension. If an item was accurately categorized with a certainty mean larger than 3.5, the item was marked for further consideration, otherwise it was deleted. No items were eliminated in this step; the vast majority of certainty means were above 4.0.

Step 3: For each of the 40 items still in the analysis, a *mean relevance score* was computed, using only the scores of the people who placed the item in the correct dimension. Using again the mean=3.5 ‘cut off’, one item was deleted. At the end of the third step of the item selection, a total of 39 items were left to be piloted: 11 items for R&R, seven items for M&C, seven items for ED, and 14 items for CD dimensions.

Before we finalize the instrument, we considered the comments of the judges to the qualitative questions, and based on those, four items were slightly reworded. At last, we inspected the four dimensions for content coverage by the present items. Three new items were added in R&R dimension to improve content coverage. The final pilot instrument DAS includes 42 items, and eight demographic questions (see Appendix B). A seven-point, Likert response scale was used for each item, ranged from 1: extremely unsuccessful to 7: extremely successful.

Data Collection and Sample Demographics

Participants were faculty, staff, and graduate students in the School of Education at a large public University in the Northeast. All were contacted via email - through a listserv for faculty (approximately 200 subscribers), staff (approximately 50 subscribers) and graduate students (approximately 700 subscribers) - and invited to participate in an anonymous, web-

based survey concerning diversity in their school. Participants were given three weeks to complete the survey. Following the initial email, two follow-up emails were sent during the second and third weeks of the data collection period. The follow-up emails served as reminders for individuals who failed to respond initially. Ultimately, however, completion of the survey was voluntary. A total of 185 individuals completed the survey (approximately 20% response rate). See Table A2 for detailed sample demographics.

 Insert Table A2 Here

Results from the Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) is particularly appropriate when the researcher does not know how many factors are necessary to explain the interrelationships among the measured variables (Pett, Lackey, & Sullivan, 2003). Thus, we carried out an EFA to determine the factor structure of the data, and to decide if any items should be eliminated from the final version of the DAS scale.

Prior to conducting an EFA, we ran descriptive statistics to get a feel for the data. The means and standard deviations looked good. Means were in the range of 3.5 to 5.0 on a 7-point Likert scale, and standard deviations were generally larger than 1.5, indicating that we had nice variability in the way people responded. We also examine the correlation matrix closely for items consistency, and to identify items that were too highly correlated ($r \geq .80$; Pett et. al., 2003). We found some considerable redundancy among items of the CD dimension. Items 32 (Respecting ethnically diverse people) and 36 (Respecting people with different backgrounds) were highly correlated ($r \geq .85$) between them and with several other items. Likewise, item 3 (Being a place where all are welcome) was highly correlated with another two items in the CD dimension. We decided to eliminate these three items prior to running an EFA.

A Principle Axis Factor (PAF) analysis with Oblimin rotation ($\delta = 0$) was conducted on 39 items from the DAS scale. An oblique rotation allows the resulting factors to be correlated, and we assumed that the four hypothesized factors in DAS might, in fact, correlate. Evaluation of the correlation matrix indicated that it was factorable. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy value was .956, which corresponds to “marvelous” ($>.90$) according to Kasier’s criteria (Pett et. al., 2003). The MSAs values on the diagonal of the anti-image correlation matrix were generally larger than .90, which again corresponds to “marvelous” according to Kasier’s (1974) criteria. The Bartlett’s Test of Sphericity ($\chi^2 = 7346.94$, $df = 741$, $p < .000$) was significant, indicating that the correlation matrix was not an identity matrix.

The number of factors to extract was determined on the basis of several criteria, including Parallel Analysis (O’ Connor, 2000), Scree Plot, and Eigenvalue Greater than 1.0 Rule (K1 criterion). The parallel analysis for PAF (and for PCA), which compares mean eigenvalues from randomly generated data to the actual eigenvalues of our data on the DAS scale, suggested that four initial factors should be retained. The Scree Plot suggested that five initial factors should be extracted; although it was a little difficult to interpret. Five extracted factors also met the K1 criterion for PAF. Based on these results, and considering the dangers of under-extracting, we decided to extract five initial factors. Specifying too few factors can result in loss of important information, by ignoring a factor or combining it with another (Hayton, Allen, & Scarpello, 2004).

The five initial factors extracted accounted for 69.54% of the total variance in the items. Inspection of the communalities table revealed that all of the items had high extracted communalities (i.e., $> .55$), which indicates that much of the common variance in the items can be explained by the five extracted factors (Thompson, 2004; Pett et al., 2003).

We examined the rotated factor matrices - both the pattern matrix (pattern coefficients) and structure matrix (structure coefficients) - for high or low coefficients. Several heuristics were used to decide how many factors and what items to retain in the final solution: (1) all items with pattern coefficients $\geq |.30|$ on more than one factors were deleted (Pett et al., 2003); (2) We retained item that had substantial pattern coefficient (.40 and above) on one factor only (Netemeyer, Bearden, & Sharma, 2003); (3) We excluded factors which remained with fewer than 3 items. The pattern coefficients from the PAF analysis, as well as the process of item deletion/ retention, are found in Table A3. A summary of the items and factors retained based on the PAF is found on Table A4.

 Insert Tables A3 and A4 Here

The first factor (eigenvalue = 21.45) included initially 12 items (items 4, 5, 6, 7, 8, 9, 13, 14, 16, 18, 22, 23; see Appendix B). However, although items 16, 18, and 23 had pattern coefficients of .42 to .44 on this factor; they had also pattern coefficients of .23 to .26 on other factors. The structure coefficients matrix suggested that items 18 and 23 were problematic, but item 16 could be retained. Considering both pattern and structure coefficients, we only eliminated items 18 and 23. Thus, 10 items were retained for Factor 1. Factor 1 included 10 out of 14 items initially designed for the R & R dimension.

The second factor (eigenvalue = 2.80) included nine items (items 33, 34, 35, 37, 38, 39, 40, 41, 42; see Appendix B). Although items 1 and 2 loaded highly on Factor 2, they also had substantial pattern coefficients on Factor 4, and were therefore dropped from the final solution. Factor 2 included nine out of 14 items initially designed for the CD dimension.

The third factor (eigenvalue = 1.80) included six items (items 10, 12, 17, 20, 27, 28; see Appendix B). Although item 30 loaded highly on Factor 3, it also loaded highly on Factor 5, and

therefore it was eliminated. Factor 1 included six out of seven items initially designed for the ED dimension.

The fourth factor (eigenvalue = 1.56) had no items with substantial pattern coefficients $> |.40|$, and, therefore, it was dropped from the final solution.

The fifth factor (eigenvalue = 1.03) included initially seven items (items 11, 21, 24, 25, 29, 31 26) however four of those had substantial pattern coefficients on other factors as well, and therefore were eliminated. Of the three remaining items, item 26 (Creating search committees that include a majority of people who value diversity) was not intended to load of Factor 5, but rather on Factor 1, therefore the item was dropped. Factor 5 now included only two (items 24 and 25) out of seven items initially designed for the M&C dimension. We decided to drop Factor 5 from the final solution. Clark and Watson (1995, as cited in Netemeyer et al., 2003) recommended that each factor within a scale has at least four or five items for very narrow constructs.

Results from the Reliability Analysis

Following the factor analysis, we run Cronbach's coefficient alpha reliabilities on each of the three factors/subscales retained. Cronbach's coefficient alpha (Cronbach, 1951, 1984) is an important and widely used measure of internal consistency in a set of items (Pett, Lackey, & Sullivan, 2003), and represents the proportion of a scale's total variance that is attributable to the true score of the latent construct being measured (Netemeyer, Bearden, & Sharma, 2003). The following procedure was used for the reliability analysis.

- (1) We sought coefficient alpha level of at least .80 (Netemeyer et. al., 2003).

- (2) We inspected the inter-item correlation matrix for possible highly correlated items. Correlations larger than .8 between two items suggest redundancy, and therefore the researcher should consider deleting one of the items.
- (3) We inspected the mean and standard deviation of the inter-item correlations (Summary Item Statistics Table). Ideally the average inter-item correlations should be in the range of .4-.7, and the standard deviation of the inter-item correlations should be small, preferably $\leq .1$ (Pett et. al, 2003).
- (4) We inspected the Item-Total Statistics table. (a) The values in the Corrected Item-Total Correlation column should be fairly (but not too) high - in the range of .4 - .75 - and should be fairly similar across items (Netemeyer et al., 2003). (b) We also inspected the Cronbach's Alpha if Item Deleted column to determine if deleting an item would significantly improve the value coefficient alpha for that subscale.
- (5) We examined the 95% confidence interval for our reliability estimate. Ideally, the lower bound of the interval should be larger than 0.8.

Subscale 1 – Recruit & Retain (R&R)

The reliability analysis on the 10 items retained in the R&R subscale resulted in a Cronbach's alpha of .95. Inspection of the inter-item correlation matrix revealed some considerable redundancy ($r = .85$) between items 4 (recruiting underrepresented *faculty*) and 5 (recruiting underrepresented *staff*). The value for item 5 in the Corrected Item-Total was too high at .78. However we decided not to drop any of the two items, because they measure two different things and contribute differently to the content coverage of the subscale (Pett et. al, 2003). Overall, the subscale met the rest of the criteria described above. The mean inter-item correlations was .64; the standard deviation of the inter-item correlations was .07 (square root of

variance=.005); and the 95% confidence interval for our reliability estimate was (.93, .96), all numbers in acceptable ranges.

Subscale 2 – Climate for Diversity (CD)

The reliability analysis on the 9 items retained in the CD subscale resulted in a Cronbach's alpha of .96. Inspection of the inter-item correlation matrix, revealed some considerable redundancy ($r = .85$) between items 34 (respecting people of color) and 33 (respecting culturally diverse people). Although these items are not the same, they seem to be measuring the same thing for many people. Therefore, we deleted item 33 and run the reliability analysis again. The reliability analysis on the 8 items retained in the CD subscale resulted in a Cronbach's alpha of .95. Two more items in the subscale appear to be highly correlated ($r = .80$); however these items (39. respecting people with different socioeconomic status, and 38. respecting people of different ages) contribute differently to the content coverage of the subscale, therefore none was eliminated. Overall, the subscale met the rest of the criteria described above. The mean inter-item correlations was .71; the standard deviation of the inter-item correlations was .06 (square root of variance=.004); and the 95% confidence interval for our reliability estimate was (.94, .96), all numbers in acceptable ranges.

Subscale 3 – Education for Diversity (CD)

The reliability analysis on the 7 items retained in the CD subscale resulted in a Cronbach's alpha of .95. Inspection of the inter-item correlation matrix, revealed some considerable redundancy ($r > .8$) between items 20 (infusing diversity into the curriculum), 27 (ensuring that graduates have the skills to work with diverse groups), and 28 (creating opportunities to study issues of diversity). Considering the Corrected Item-Total Correlations, the Cronbach's Alpha if Item Deleted statistics, and the wording of the items we decided to

eliminate items 20 and 28 to reduce the redundancy within the subscale. We run the reliability analysis again. The reliability analysis on the 5 items retained in the ED subscale resulted in a Cronbach's alpha of .92. Overall, the subscale met the rest of the criteria described above. The mean inter-item correlations was .70; the standard deviation of the inter-item correlations was .06 (square root of variance=.004); and the 95% confidence interval for our reliability estimate was (.90, .94), all numbers in acceptable ranges.

 Insert Table A5 Here

Verbal Description and Interpretation of the Resulting Subscales

Results from the PAF and reliability analysis confirmed, in part, three of the four hypothesized factors in DAS.

The 10 items in the R&R subscale measure the extent to which a person believes that his/her school is successful in recruiting and retaining underrepresented minority faculty, staff, and students. A person who scores high on this subscale believes that the school is successful in recruiting and retaining underrepresented minority faculty, staff, and students, while a person who scores low does not.

The eight items in the CD subscale measure the extent to which a person believes that his/her school is a comfortable and secure place for all; a place where students, faculty and staff feel valued and respected, regardless of race, ethnicity, gender, religion, sexual orientation, age, job class, ability/disability or any other characteristic. A person who scores high on this subscale believes that the school is successful in creating a comfortable and secure place for all, while a person who scores low does not.

The five items in the ED subscale measure the extent to which a person believes that his/her school is successful with providing education on diversity issues, providing guidance

regarding teaching diverse students, offering diversity courses for students, and ensuring that graduates have the skills to work with diverse groups. A person who scores high on this subscale believes that the school is successful with educating faculty, staff, and students on diversity, while a person who scores low does not.

Creation of Subscale Scores

For each person in the dataset (N=185), the researcher computed a mean score on each subscale. The subscale mean score was calculated by using the formula MEAN.\# (x,y) in SPSS. Mean scores were calculated only for those who responded to at least half of the items in that subscale. The means and standard deviations for each subscale are presented in Table A6. Table A7 shows the correlation between the subscales.

Insert Tables A6 and A7 Here

Additional Analysis

To investigate whether the population means of the dependent variables (R&R, CD, ED) were different for different groups of people (see demographic items) we conducted several one-way multivariate analysis of variances (MANOVAs). Statistically significant differences were found between faculty/staff and students (Wilks's $\Lambda = .42$, $F(3,173)=4.83$, $p < .01$, multivariate $\eta^2=.08$; see Table A9), and between Whites and people of other ethnicity (Wilks's $\Lambda = .13$, $F(3,170) = 6.61$, $p < .01$, multivariate $\eta^2=.10$; see Table A10) on the dependent measures.

Follow-up independent-samples t-tests showed that graduate students scored significantly higher on the Climate for Diversity ($M_{\text{student}} = 5.28$; $M_{\text{faculty/staff}} = 4.61$; $t_{(177)} = -3.18$; $p = .002$; Cohen's $d = .12$), and Education for Diversity ($M_{\text{student}} = 4.41$; $M_{\text{faculty/staff}} = 3.90$; $t_{(178)} = -2.34$; $p = .02$; Cohen's $d = .09$) subscales than faculty/staff. Also, Whites scored significantly higher on

the Recruit and Retain ($M_{Whites} = 3.95$; $M_{other} = 3.09$; $t_{(174)} = 3.28$; $p = .001$; Cohen's $d = .16$) and Education for Diversity ($M_{Whites} = 4.38$; $M_{other} = 3.24$; $t_{(175)} = 3.91$; $p < .001$; Cohen's $d = .20$) subscales than people of other ethnicities.

 Insert Tables A9 and A10 Here

Discussion

Success with addressing diversity in a large public university was thought to have four dimensions: (1) ability to *recruit and retain* underrepresented minority faculty, staff, and students; (2) ability to *market and communicate* commitment to diversity in order to get faculty, staff, students, and alumni to “buy in.”; (3) ability to provide *education for diversity*; and (4) ability to endorse a positive *climate for diversity*, where students, faculty and staff feel valued and respected, regardless of race, ethnicity, gender, religion, sexual orientation, age, job class, ability/disability or any other characteristic. Based on a review of the literature, items were developed to measure the four dimensions. Results from the EFA only partially confirmed the hypothesized dimensions. Three factors were retained: (1) recruit and retain; (2) education for diversity; and (3) climate for diversity. Cronbach's Alpha reliabilities showed high internal consistency for the three resulting subscales.

Limitations and Future Research

One limitation of the present study is the relatively small sample size ($N=185$). Although there is very little agreement in the literature regarding adequate sample size for factor analysis, Comrey (1988) stated that a sample size of 200 is adequate in most cases of ordinary factor analysis that involve no more than 40 items. On the other hand, Nunnally (as cited in Pett et al., 2003) suggested at least 10 subjects per item. The DAS had 42 items which corresponds

approximately to four subjects per item. Future investigations to confirm the factor structure, subscales reliability, and validity of the DAS should aim to collect larger samples.

Moreover, within the subscales some inter-items correlations were a little high suggesting some redundancy. In general we deleted the problematic items; however, in a couple of cases we did not, because the items were judge to be significant contributors to the content validity since they measured different aspects of the dimension (Pett et. al., 2003). Though, in the next version of DAS scale, we could reword these items, or try to combine them in one statement, in order to reduce the redundancy.

In the future we might also consider conducting a Confirmatory Factor Analysis (CFA) on the DAS scale with a larger sample. For scale development, Confirmatory Factor Analysis (CFA) is used “*to confirm an a priori hypothesis about the relationship of a set of measurement items to their respective factors* (Netemeyer, et al., 2003, p.148). The technique involves testing the fit of theoretical models to data (Thompson, 2004). CFA is used to test whether or not a hypothesized factor model fits the data (Netemeyer et al., 2003). CFA can also be used to detect and trim items that may threaten the dimensionality of a scale. Thus, using CFA, the three-factor solution suggested by the present study can be tested more explicitly, and the DAS can undergo further refinement as deemed necessary. Moreover, future validation of the DAS should include examination of other forms of validity evidence, such as convergent, discriminant, and predictive validity.

Finally, future work should attend to sampling (especially with respect to staff in general and racial/ethnic groups in particular) in order to validate whether the instrument as conceived by this analysis holds constant.

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Appendix A

Table A1

Names and Conceptual Definitions of the Hypothesized Factors

Name	Conceptual Definition
I: Recruit & Retain (R&R)	This factor is concerned with the institution's ability to recruit and retain underrepresented minority faculty, staff, and students, by providing support and by facilitating their success.
II: Marketing & Communicating (M&C)	This factor is concerned with the institution's ability to communicate commitment to diversity, to share diversity goals, to report progress in achieving diversity such goals, in order to get faculty, staff, students, and alumni to "buy in."
III: Education for Diversity (ED)	This factor is concerned with the institution's ability to provide education on diversity issues, to guide faculty regarding teaching diverse students, to offer diversity courses for students, and to ensure graduates have the skills to work with diverse groups.
IV: Climate for Diversity (CD)	This factor is concerned with the institution's ability to be a comfortable and secure place for all; a place where students, faculty and staff feel valued and respected, regardless of race, ethnicity, gender, religion, sexual orientation, age, job class, ability/disability or any other characteristic.

Table A2

Sample Demographics (N=185)

	Frequency	Valid Percent
Status		
Faculty	59.0	31.9
Staff	16.0	8.6
Students	106.0	57.3
Gender		
Male	63.0	34.1
Female	116.0	62.7
Race/ Ethnicity		
White	150.0	81.1
Other	28.0	15.1
Religion		
Catholic	62.0	33.5
Protestant	30.0	16.3
Other	84.0	45.4
Disability Status		
Disabled	4.0	2.2
Not Disabled	173.0	93.5
Sexual Orientation		
Heterosexual	157.0	84.9
Other	20.0	10.8

	Frequency	Valid Percent
Socioeconomic Status		
Low	13.0	7.0
Medium	124.0	67.0
High	37.0	20.0
Age		
20-30	58.0	31.4
30-40	54.0	29.2
40-50	29.0	15.7
50-60	28.0	15.1
>60	5.0	2.7

Table A3

Pattern matrix generated from the PAF solution with Oblimin rotation.

Item	Factor				
	1	2	3	4	5
7. Retaining underrepresented faculty.	0.81		-0.13		
9. Retaining underrepresented staff.	0.77		-0.12		
8. Retaining students from diverse groups.	0.74	-0.12		0.12	
5. Recruiting underrepresented staff.	0.70		-0.11	-0.26	
4. Recruiting underrepresented faculty.	0.68		-0.10	-0.26	
6. Recruiting students from diverse groups.	0.65	-0.18	0.15	-0.31	
13. Encouraging diverse employees to apply for positions.	0.64		-0.11		0.17
14. Encouraging diverse students to apply for admission.	0.56			-0.14	0.29
22. Providing leadership opportunities to underrepresented employees.	0.53	-0.17	-0.13	0.20	0.18
16. Ensuring the diverse composition of candidate pools.	0.44	-0.21	-0.10		0.23
23. Providing leadership opportunities to students from diverse groups.	0.44	-0.13	-0.16	0.24	0.22
18. Ensuring equity in employment opportunities.	0.42	-0.25	-0.15	0.26	
15. Making known funding information concerning	0.37		-0.20	-0.22	0.16

Item	Factor				
	1	2	3	4	5
diversity-					
41. Respecting people with different religions.		-0.87			
39. Respecting people with differing socioeconomic status.		-0.84			
38. Respecting people of different ages.		-0.83		0.10	
40. Respecting people with disabilities.	-0.15	-0.82			
35. Respecting both genders.		-0.77			
33. Respecting culturally diverse people.		-0.69	-0.13	-0.11	0.11
34. Respecting people of color.		-0.68	-0.18		
42. Being a place where all benefit equally from the environment.	0.26	-0.64			
37. Respecting people of different sexual orientation.	0.15	-0.64	-0.22		
2. Showing respect for diversity.	0.23	-0.54	-0.16	-0.35	
1. Creating a comfortable and secure place for all.	0.27	-0.50		-0.37	
17. Offering courses on diversity.			-0.83		
20. Infusing diversity into the curriculum.		-0.11	-0.78		
27. Ensuring that graduates have the skills to work with diverse groups.			-0.77		
28. Creating opportunities to study issues of diversity.		-0.15	-0.75		0.13
12. Providing guidance regarding teaching diverse students.	0.15		-0.70	-0.20	
30. Providing educational resources on diversity.			-0.67		0.32
10. Providing education on diversity issues.		-0.12	-0.65	-0.20	
19. Ensuring equal opportunities for student admission.	0.21	-0.27	-0.33	0.21	
24. Communicating a commitment to diversity through campus publications.	0.14				0.75
25. Publishing reports on NSoE's progress regarding diversity.	0.10				0.71
26. Creating search committees that include a majority of people who value diversity.	0.20	-0.23			0.56
21. Publicizing the existence of diversity institutes/centers on campus.	0.35				0.50
11. Publicizing the school's efforts to promote diversity.			-0.34	-0.33	0.49
29. Publicizing success stories about addressing diversity.			-0.41		0.44
31. Communicating diversity policy(s).		-0.34	-0.12		0.44

Table A4

Subscales and Items retained Based on the Reliability Analysis

Subscale	# of Items	Items
Recruit and Retain (R&R)	10	<p>7. Retaining underrepresented faculty.</p> <p>9. Retaining underrepresented staff.</p> <p>8. Retaining students from diverse groups.</p> <p>5. Recruiting underrepresented staff.</p> <p>4. Recruiting underrepresented faculty.</p> <p>6. Recruiting students from diverse groups.</p> <p>13. Encouraging diverse employees to apply for positions.</p> <p>14. Encouraging diverse students to apply for admission.</p> <p>22. Providing leadership opportunities to underrepresented employees.</p> <p>16. Ensuring the diverse composition of candidate pools.</p>
Climate for Diversity (CD)	8	<p>41. Respecting people with different religions.</p> <p>39. Respecting people with differing socioeconomic status.</p> <p>38. Respecting people of different ages.</p> <p>40. Respecting people with disabilities.</p> <p>35. Respecting both genders.</p> <p>34. Respecting people of color.</p> <p>42. Being a place where all benefit equally from the environment.</p> <p>37. Respecting people of different sexual orientation.</p>
Education for	5	<p>17. Offering courses on diversity.</p>

Subscale	# of Items	Items
Diversity (ED)	27.	Ensuring that graduates have the skills to work with diverse groups.
	12.	Providing guidance regarding teaching diverse students.
	30.	Providing educational resources on diversity.
	10.	Providing education on diversity issues.

Table A5

Reliability Statistics for Each Subscale (N = 185)

Subscale	# Items	Cronbach's Alpha	95% Confidence Interval		Mean Inter-Item Correlations	SD of Inter-Item Correlations
			Lower	Upper		
R&R	10	.95	.93	.96	.64	.07
CD	8	.95	.94	.96	.71	.06
ED	5	.92	.90	.94	.70	.06

Table A6

Means and Standard Deviations for each Subscale

Subscale Name	# Items	Cronbach's Alpha	Mean	Standard Deviation
Recruit and Retain	10	.95	3.78	1.36
Climate for Diversity	8	.95	4.90	1.55
Education for Diversity	5	.92	4.15	1.52

Table A7

Correlation Between Subscales

Subscale	Recruit and Retain	Climate for Diversity	Education for Diversity
Recruit and Retain	1	.64	.70
Climate for Diversity	.64	1	.71
Education for Diversity	.70	.71	1

Note: All correlation are significant at the .01 level (2-tailed).

TableA9

Means and Standard Deviations on the Dependent Variables for Status

	Recruit and Retain		Climate for Diversity		Education for Diversity	
Status	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Faculty/staff	3.70	1.56	4.61	1.39	3.90	1.39
Graduate Student	3.94	1.19	5.30	1.38	4.43	1.45

Table A10

Means and Standard Deviations on the Dependent Variables for Ethnicity

	Recruit and Retain		Climate for Diversity		Education for Diversity	
Race/ethnicity	M	SD	M	SD	M	SD
White	3.96	1.26	5.06	1.42	4.39	1.37
Other	3.08	1.36	4.58	1.39	3.24	1.48

Appendix B

The Final Pilot Instrument DAS

Diversity Attitudinal Survey

Please keep University of Connecticut's definition of diversity in mind as you answer the questions:

Diversity is: "The presence and participation of people who differ by age, color, ethnicity, gender, national origin, race, religion, and sexual orientation; and includes those with disabilities and from various socio-economic backgrounds. It encompasses not only individuals and groups, but also thoughts and attitudes."

Please rate how successfully the Neag School of Education addresses each of the following diversity related issues.

Success Scale

Extremely Unsuccessful	Unsuccessful	Moderately Unsuccessful	Neither successful nor unsuccessful	Moderately Successful	Successful	Extremely Successful
1	2	3	4	5	6	7

1. Creating a comfortable and secure place for all.	1	2	3	4	5	6	7
2. Showing respect for diversity.	1	2	3	4	5	6	7
3. Being a place where all are welcomed.	1	2	3	4	5	6	7
4. Recruiting underrepresented faculty.	1	2	3	4	5	6	7
5. Recruiting underrepresented staff.	1	2	3	4	5	6	7
6. Recruiting students from diverse groups.	1	2	3	4	5	6	7
7. Retaining underrepresented faculty.	1	2	3	4	5	6	7
8. Retaining students from diverse groups.	1	2	3	4	5	6	7
9. Retaining underrepresented staff.	1	2	3	4	5	6	7
10. Providing education on diversity issues.	1	2	3	4	5	6	7
11. Publicizing the school's efforts to promote diversity.	1	2	3	4	5	6	7
12. Providing guidance regarding teaching diverse students.	1	2	3	4	5	6	7
13. Encouraging diverse employees to apply for positions.	1	2	3	4	5	6	7
14. Encouraging diverse students to apply for admission.	1	2	3	4	5	6	7
15. Making known funding information concerning diversity.	1	2	3	4	5	6	7
16. Ensuring the diverse composition of candidate pools.	1	2	3	4	5	6	7
17. Offering courses on diversity.	1	2	3	4	5	6	7
18. Ensuring equity in employment opportunities.	1	2	3	4	5	6	7
19. Ensuring equal opportunities for student admission.	1	2	3	4	5	6	7
20. Infusing diversity into the curriculum.	1	2	3	4	5	6	7
21. Publicizing the existence of diversity institutes/centers on	1	2	3	4	5	6	7

campus.							
22. Providing leadership opportunities to underrepresented employees.	1	2	3	4	5	6	7
23. Providing leadership opportunities to students from diverse groups.	1	2	3	4	5	6	7
24. Communicating a commitment to diversity through campus publications.	1	2	3	4	5	6	7
25. Publishing reports on NSoE's progress regarding diversity.	1	2	3	4	5	6	7
26. Creating search committees that include a majority of people who value diversity.	1	2	3	4	5	6	7
27. Ensuring that graduates have the skills to work with diverse groups.	1	2	3	4	5	6	7
28. Creating opportunities to study issues of diversity.	1	2	3	4	5	6	7
29. Publicizing success stories about addressing diversity.	1	2	3	4	5	6	7
30. Providing educational resources on diversity.	1	2	3	4	5	6	7
31. Communicating diversity policy(s).	1	2	3	4	5	6	7
32. Respecting ethnically diverse people.	1	2	3	4	5	6	7
33. Respecting culturally diverse people.	1	2	3	4	5	6	7
34. Respecting people of color.	1	2	3	4	5	6	7
35. Respecting both genders.	1	2	3	4	5	6	7
36. Respecting people with different backgrounds.	1	2	3	4	5	6	7
37. Respecting people of different sexual orientation.	1	2	3	4	5	6	7
38. Respecting people of different ages.	1	2	3	4	5	6	7
39. Respecting people with differing socioeconomic status.	1	2	3	4	5	6	7
40. Respecting people with disabilities.	1	2	3	4	5	6	7
41. Respecting people with different religions.	1	2	3	4	5	6	7
42. Being a place where all benefit equally from the environment.	1	2	3	4	5	6	7

Demographics (optional):

I am:

☐ Faculty☐ Staff☐ Student

Religion:

☐ Catholic☐ Protestant☐ Other

Socioeconomic Status:

☐ Low☐ Medium☐ High

Gender:

☐ Male☐ Female

Disability Status:

☐ Disabled☐ Not Disabled

Age:

☐ 20-30☐ 31-40☐ 41-50☐ 51-60☐ >60

Race/Ethnicity:

☐ White☐ Other

Sexual Orientation:

☐ Heterosexual☐ Other